diversion. Tributary inflow of streams between Pathfinder and Whalen varies widely, owing to local summer rains, and diversions by canals may be changed on short notice owing to rains on the irrigated lands and varying demands for water by water users due to maturity of crops, etc. Three to four days' time is required for water to travel from Pathfinder to Whalen.

The Guernsey Reservoir, built in 1926, is located at Guernsey, Wyo., 10 miles above the Whalen diversion dam, and has a capacity of 70,000 acre-feet. This capacity is small compared to the more than 1,000,000 acre-feet capacity of Pathfinder Reservoir, but is found to be ample for river regulation. Guernsey Reservoir is ordinarily carried about half filled during the irrigation season so that varying demands can be promptly supplied and also any sudden increase in the river flow entering the reservoir can be stored and conserved for irrigation use.

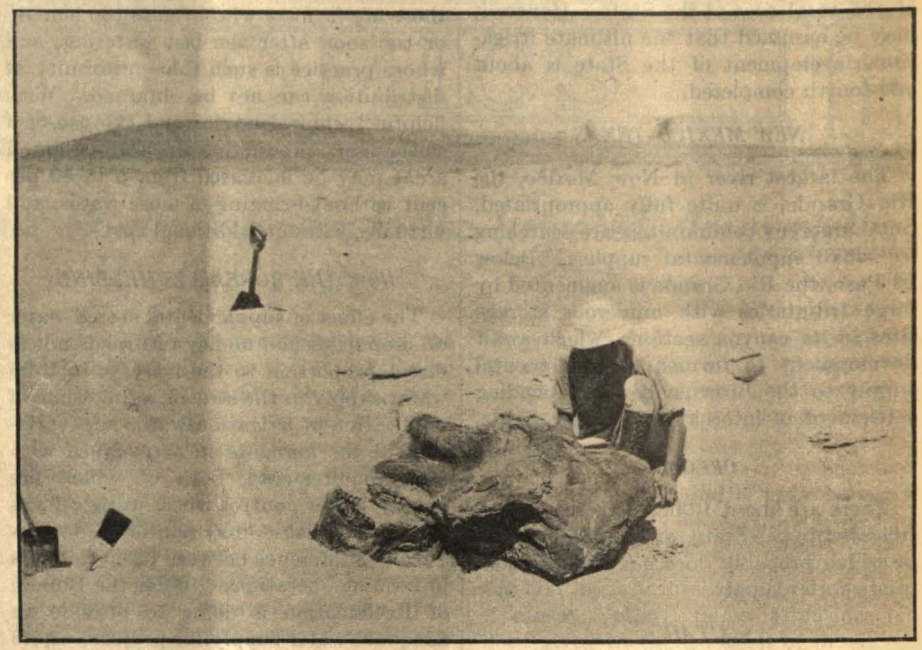
During the years 1930 and 1931 the entire flow of the North Platte River passing both the Pathfinder and Guernsey Dams has been under complete regulation without waste of water over wasteways at either dam. The total storage draft on Pathfinder Reservoir for the 2-year period was approximately 1,395,000 acre-feet, being 736,000 acre-feet in 1930 and 659,000 acre-feet in 1931. The season of 1931 was exceedingly dry and Pathfinder Reservoir was entirely empty by the end of August in spite of careful use of water and restricted delivery previous to that time. Normal use of water in 1931 and a full water supply would have resulted in a draft of nearly 900,000 acre-feet on Pathfinder storage.

A conservative estimate of the water stored and saved through better regulation as a result of the construction of Guernsey Dam is 100,000 acre-feet per year, or 200,000 acre-feet for the 2-year period. An additional shortage in the supply in 1931 of 200,000 acre-feet would have been disastrous to project crops. The sugar-beet crop alone covers 60,000 acres and, on account of the late irrigation necessary for this crop, would have been damaged to the extent of at least $15 per acre or a total of $900,000. With the added loss on other crops the total loss to the project due to an additional shortage of 200,000 acre-feet of water would have exceeded $1,000,000 for the present season.

FOURTEEN prospective settlers were shown over the Riverton project during the month of September; 3 applications for farm units were received; 1 applicant was accepted and paid the water rental charge for 1932; and 1 man filed homestead entry.

Fossil Elephant Skull Unearthed on the Newlands Project, Nevada

By Dr. Chester Stock, California Institute of Technology, Pasadena



Skull of fossil elephant; to the left the lower jaw with teeth exposed

A fossil elephant skull found near Fallon, Nev., on the Newlands project, was discovered recently by H. C. Candee of that city. Mr. Candee and his family were on a fishing trip and on one of the small islands on the southern side of Lahonton Reservoir they noticed some small fragments of brown colored bone lying on the surface of the sandy floor of the island. Upon further investigation the party found the head of a thigh bone and a knee-cap of a very large animal. Sustained search at that time revealed nothing more than a large quantity of indeterminable fragments.

Mr. Candee returned to Fallon and informed J. S. Mills of his discovery, who immediately notified Dr. Chester Stock at the California Institute of Technology, who in turn instructed a group of his students, then engaged in summer field research in Nevada, to proceed to Fallon and investigate the occurrence.

Careful examination of the ground by the students disclosed a small piece of bone protruding from the sand on the floor of the island, and digging carefully with small knives and camel's-hair brushes it soon became evident that this small piece of bone was part of the top of the skull of a very large animal. Continued excavations disclosed the almost complete skull and lower jaw of a Pleistocene or ice-age elephant. The specimen measured approximately 4 feet from the tips of the nasals to the back of the cranium with a transverse diameter of about 2½ feet across the forehead.

As the skull was uncovered it was given several coats of thin shellac to prevent the bone from crumbling. It was then tightly wrapped with strips of burlap dipped in plaster of Paris. The hardened plaster inclosed the specimen in a firm "jacket" which protected it from any damage that might have occurred while it was being shipped to Pasadena.

After its removal from the ground the skull was hauled across the intervening sand of the dry reservoir bottom on an improvised sled, placed in a truck, and taken into Fallon for shipment.

At the California Institute of Technology the plaster "jacket" will be carefully removed and the specimen prepared for study and exhibition purposes.

THE new Federal building at Klamath Falls, Klamath project, was completed and ready for occupancy on October 15. The Bureau of Reclamation is established in this building and is occupying the entire third floor.